Chief of Naval Operations
Adm. Jonathan Greenert

Association of Old Crows

29 October 2013

Admiral Greenert: Good morning everybody. Hope you've all had your coffee. We're ready to go.

It's very unusual for my service to kind of have a nuclear submariner saying hey everybody, we're going to get squared away in EW, cyber, and electronic warfare. What? I had an epiphany a while back. It's like I went to the Jordan and I was dunked and I came up. When I was Vice CNO, it was right near the end of my tour. I had been told that you're going to be the CNO, so get ready.

I was going down there and they said so what's this all about? They said well, we're having a DAWG -- Deputies Advisory Working Group. They said we had another attack on our frequencies, on our spectrum. It's in the spectrum. And the FCC wanted to take away the frequency and we've got to find out what that means. So we said okay, whatever, what frequency is that? 1755. I couldn't say if it was killamega or whatever. And so I get on and I'm looking at this. What does that tell us? Well that's right in the middle of spy radar, our Aegis radar, which is right in the middle of all of our destroyers and cruisers. Well this is not good, we can't have this.

But it dawned on me, and I said well this is the third one of these meetings I'm seeing this. That's not good. They keep coming back. We're going to lose this and we're going to have to move or find out how to train in a different frequency, move to a different area, not interfere with it, [inaudible] broadband [inaudible]. Where are we in the wonderful magnetic frequency? So I went back to high school and maybe college. I was an engineer so we didn't get into this stuff so much.

I looked at that and I said we're all kind of jumbled up in one aera. What is the plan? I don't know. I said uh oh, this isn't really good. So I took over as the CNO and I have a group called the Strategic Studies Group. I turned to a gaggle of O6 captains, and once a year they go up to Newport, Rhode Island and they study something that the CNO gives them to study. I said ladies and gentlemen, I'd like you to figure out how to get us out of the electromagnetic spectrum to do coms and stuff. Is there something else out there? Because wehre we are is not good. They came back after about -- This is a year-long project. So first of all, answer that question. If the answer to that question is no, then we've got to figure out what to do.

They came back shortly and they said there is nothing else out there. I don't know what you were thinking. Okay, what do we do? They said we're in a heap of trouble now. We have no idea how much electromagnetic energy we are spewing out there on strike groups, so we're out there WiFi'ing to sailors, we've got SHF and everything. All the stuff that we put on there. And

looking at some of you folks who I recognize as former shipmates, you remember when we had MCON and the Soviets and we could go up and hide in fjords out there in Norway with MCON. We were pretty good at it. We had none of that, and we really had no good control in our requirements directives, if you will, on when we brought in new com systems, new radars, new jammers, new seekers, as to what frequency spectrum we had. We didn't require industry to allow us to frequency hunt or to move around. So I'm like whoa. They said yeah, we've got some issues here.

So I went and asked our intel folks, who's tracking us? They go, they're tracking us all over the place. The strike group's moving.

So we ran some exercises, and this may be rudimentary to many of you, you say I knew about this, but this was all part of my epiphany. And by the way, I'm not alone here. This was a -- We're still learning that.

Okay, let's do some mission control exercises. They go, aw, we've got to do that again? We're like dusting off the [inaudible], this or that. We ran one. We went out with the Nimitz and I turned everything off. It took like two hours. Somebody was monitoring it so you can imagine the [inaudible] yada, yada. Some going like this, and someone saying darn it, turn that off, what is that? Well it's a WiFi. Turn it off. It took us well over two hours.

Okay, so we've run this. This was about two years ago. We're getting pretty good at it now. We understand that this is a skill many of you would recognize coming around. So this in addition to cyber. I'm looking at cyber. We're pretty good at cyber. I don't know that we're -- We think we're pretty good. We feel good about where we stand in cyber. We can talk about that.

Then there's the electromagnetic spectrum and how the two of them meet. We're using these -- one's kind of a domain and one's a means. And understanding it and grasping it is something that I said look, this next year, in the remainder of my tenure, we have to get wise on this. We have to figure out how we defeat things electronically first. Why do we spend all this money kinetically if I can jam, spoof or do otherwise with something? What is our best means of influencing or getting an effect or defeating another entity's gear or whatever? Well, it's usually through EM.

Here's the ultimate. There are enough aviators, I won't have you raise your hand. It's okay. So I get my straight stick aviators and I say tell the truth, now, what is the most important aircraft, type/model/series in the air wing? There's a silence. They go okay, it's the E-2. There we go, say it one more time. They go, the E-2. And it is.

What's the second? They say okay, it's the Growler. Now we're talking. Now we've moving along here.

What's the third? The Hornet and the F-35. We get it.

That's the sort of paradigm that we have to get straight out there to understand that if you can't get where you need to get with that strike package it ain't going to matter. You won't have enough standoff weapons and all the stealth in the world won't penetrate everything out there. They're going to have to figure out how to deal in that spectrum.

So if I were to look at where we're headed -- big picture and sort of bring something coherently together in our service, what we need to do is one, we've got to get a better awareness of our environment out there. We have to know what the normal is.

If you go out to 10th Fleet, our Fleet Cyber Command, you go in and they have a command center. You can go up there and stand there and say so what have we got here? You go to any numbered fleet they'll say well, what we have here are the common operational picture. They've got all the ships, the icons of ships and all that. What do we have here? These are our networks. Okay, that's good. You can see all the nodes and all that kind of stuff.

What's the first thing you guys are trying to sort out? When you go to a fleet command center they'll say well, they know what normal is because they've established that from the very beginning. We brought all these networks in, we're not sure what exactly normal is. We have to understand when there's not a virus in there running around, an intrusion, exploitation going on. We're sorting through that. We're getting very close. We know when there's a change but is the status quo the normal? Is that normal? What is our environment?

The other one is that signature I talked to you about. What is the signature, our EM signature on all our units? Is it appropriate?

Then of course there's what is your, if you will, your cyber hygiene on your ship? Are you changing your passwords appropriately? Even on thumb drives. And are you doing proper monitoring?

So establishing a better awareness, is number one.

Two, we have got to be more agile, and I kind of mentioned that. We've got to be agile in our systems, but we've got to be agile in our own operations, in our ability to move around this and understand it. That gets to, that's strike packages, that's using our radars, that's building the radars that can use different frequencies and get out of frequencies when we should and invest in them right off the bat. It's really putting cyber teams together that can be more agile. Mike Rogers has done a fantastic job up at 10th Fleet/Fleet CyberCom, doing that. In fact he is leading the way in the overall CyberCom arena in that regard. And we've got to evolve this paradigm that I just kind of mentioned to you, how we are going to approach things in the future. If they say hey, so and so just developed a new missile. A lot of times the question is can we shoot it down? The real question I think should be can we jam it, spoof it, avoid it? Can we detect it? And then similarly, whenever we're designing a new missile, a lot of people want to say bigger warhead, bigger boost. I would say what's the [seeker] like? What can it do in a turn? How can it avoid things? It's an entire change to that kill chain approach.

Lastly I would say as we've talked a lot about Air Sea Battle, and we're talking about that concept of Air Sea Battle, one of the key elements of it is what we call cross-domain cooperation. In other words, reaching into one domain for an effect to come into another. So imagine a submarine coming up to periscope depth, putting a mask up, and using electromagnetic effect for a cyber effect to put down A Triple A or put down a system out there through cyber exploitation, cyber attack or something. Becoming the tool of cyber. Becoming an instrument in the electromagnetic spectrum.

So we've got a lot of things to do out there. We've got to dust off our mission essential task list, if you will, our procedures for MCON. We've got to demonstrate it out there. We've got to look at what it is out there in our adversaries, what are they using to detect us? And yeah, we've got to worry about shooting down whatever is coming at us, but I've got a good idea. How about not being detected? How about making them feel like we're somewhere else, there's too many of us, and looking at that part. And we're finding some pretty good successes out there.

So it's kind of a fundamental change and it's something, when we think of exercises, that we need to run it and understand it, and we've run, we've crawled. I gave you kind of the Nimitz turning off all their systems. We've moved on to cooperative exercises with the Australians and some other of our allies who are pretty smart in this regard. You find us, how do you find us, what is it that makes a carrier detectable from over-the-horizon radar? What is it that makes a carrier detectable from satellite, how do we not do it? How do we make it look like something else? Continuing to run those sort of exercises is something that we're going to do.

And putting that kind of thing, that kind of EW and cyber in our joint, our certification for joint operations and also our certification just to deploy as we move out there in the future.

So a long way ahead. A lot of programs that we've got coming in. I mentioned just a few of them in seekers and others. Categorically. We can go through the specifics in Q&A if you want, but to me this is one, if I think of what's up for me the rest of my tenure? The undersea domain, for sure; Navy/Marine Corps integration as they come back to sea; and the EM spectrum, cyber operations for sure, and looking toward the Arctic and what we're going to do there. Those are my four focus areas. This is one that's getting critical.

I appreciate the time to just throw a few things out to you on just our initiatives. In the time we have, that's what I wanted to do. But now let's stop and take your questions and see what's on your mind, what you want to talk about specifically. Thank you.

###